The plan was to make Taq DNA pol mutant so that it can utilize deoxy or dideoxy nucleotides more effectively. This will be similar to T5 DNA pol mutation.

Comparison of the amino acid sequence of polymerases such as T5, Pol I, T7 and Taq should some distinctive differences in and around dNTP binding sites. Note that T7 utilizes dNTPs / ddNTPs equally well.

The dNTPs binds adjacent to O-helix of Klenow fragment (...). These following amino acids may be important:

	O-helix	O-helix	Q-helix	O-helix
Pol I (Klenow frag)	Arg 754	Arg 755	Arg 841	Pol I Phe 762
Taq	Arg 659	Arg 660	Arg 746	Phe
T7	Arg 606	[redacted]	[redacted]	[redacted]
T5	Arg	Ala	Arg	Phe

In J-helix

Pol I	677	= Gln (Q)
T5		= Gln (Q)
Taq	582	= Gln (Q)
[redacted]		= Ala (A)

I-helix

Pol 628	= Leu (L)
T5	= Leu
Taq	= Leu
[redacted]	= Lys (K)

B-sheet 14

Pol	919	Gly (G)
Taq		Gly (G)
[redacted]		Lys (K)
T5		Asp (D)

Q-helix in addition to Arg 841

Pol 854	Asp (D)
Taq	Asp (D)
[redacted]	Leu (L)
T5	Asp (D)

ssed & Understood by me,	Date	Invented by	Date
		Recorded by	